

General Requirements

WAC 296-835-110

Summary

YOUR RESPONSIBILITY:

Safeguard employees working with dip tanks

You must

CONSTRUCTION

Construct safe dip tanks

WAC 296-835-11005 110-3

VENTILATION

Provide proper ventilation for the vapor area

WAC 296-835-11010 110-3

Take additional precautions if you recirculate ventilation system exhaust air into the workplace

WAC 296-835-11015 110-5

Take additional precautions when using an exhaust hood

WAC 296-835-11020 110-6

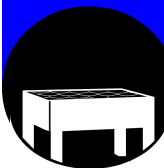
INSPECTION

Periodically inspect your dip tanks and associated equipment and correct any deficiencies

WAC 296-835-11025 110-6

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Summary

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FIRST AID

Make sure employees working near dip tanks know appropriate first aid procedures

WAC 296-835-11030 110-7

CLEANING

Prepare dip tanks before cleaning

WAC 296-835-11035 110-8

CYANIDE

Safeguard cyanide tanks

WAC 296-835-11040 110-9

WELDING

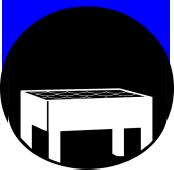
Protect employees during welding, burning or other work using open flames

WAC 296-835-11045 110-10

LIQUIDS HARMFUL TO SKIN

Provide additional protection for employees working near dip tanks that use liquid that may burn, irritate, or otherwise harm the skin

WAC 296-835-11050 110-11



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CONSTRUCTION

WAC 296-835-11005

Construct safe dip tanks

You must

- Make sure dip tanks, including any drain boards, are strong enough to support the expected load.

VENTILATION

WAC 296-835-11010

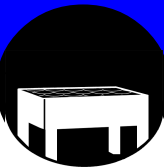
Provide proper ventilation for the vapor area

You must

- Make sure mechanical ventilation meets the requirements of one or more of the following standards:
 - NFPA 34-1995, Standard for Dipping and Coating Processes Using Flammable or Combustible Liquids
 - ACGIH's "Industrial Ventilation: A Manual of Recommended Practice" (22nd ed., 1995)
 - ANSI Z9.1-1971, Practices for Ventilation and Operation of Open-Surface Tanks and ANSI Z9.2-1979, Fundamentals Governing the Design and Operation of Local Exhaust Systems.

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Rule

WAC 296-835-11010 (Continued)



Note:

Some, or all, of the consensus standards (such as ANSI and NFPA) may have been revised. If you comply with a later version of a consensus standard, you will be considered to have complied with any previous version of the same consensus standard.

You must

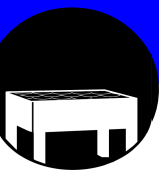
- Limit the vapor area to the smallest practical space by using mechanical ventilation.
 - Keep airborne concentration of any substance below 25% of its *lower flammable limit* (LFL).
 - Make sure mechanical ventilation draws the flow of air into a hood or exhaust duct.
 - Have a separate exhaust system for each dip tank if the combination of substances being removed could cause a:
 - Fire
 - Explosion
- OR**
- Potentially hazardous chemical reaction.



Reference:

You need to keep employee exposure within safe levels when the liquid in a dip tank creates an exposure hazard. See Air contaminants, WAC 296-62-075 through 296-62-07515.

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Rule

WAC 296-835-11010 (Continued)



Note:

You may use a tank cover or material that floats on the surface of the liquid to replace or assist ventilation. The method or combination of methods you choose has to maintain the airborne concentration of the hazardous material and the employee's exposure within safe limits.

WAC 296-835-11015

Take additional precautions if you recirculate ventilation system exhaust air into the workplace

You must

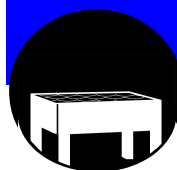
- Only recirculate air that contains no substance at a concentration that could pose a health or safety hazard to employees.
- Make sure any exhaust system that recirculates air into the workplace:
 - Passes the air through a device that removes contaminants
 - Sounds an alarm and automatically shuts down the dip tank operation, if the vapor concentration of any substance in the exhaust air exceeds 25% of its *lower flammable limit (LFL)*
 - Monitors the concentration of vapor from flammable or combustible liquids with approved equipment



Note:

- The LFL concentration in the air must be determined after the air passes through the air-cleaning device and before the air re-enters the workspace.
- Most substances will pose a health hazard at a concentration far below 25% of its LFL.

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WAC 296-835-11020

Take additional precautions when using an exhaust hood

You must

- Make sure each room with an exhaust hood has a source of outside air that:
 - Enters the room in a way that won't interfere with the function of the hood
 - Replaces at least 90% of the air taken in through the hood.

INSPECTION

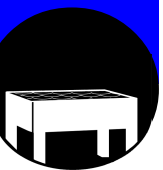
WAC 296-835-11025

Periodically inspect your dip tanks and associated equipment and correct any deficiencies

You must

- Inspect or test your dip tanks and associated equipment periodically, including:
 - Covers
 - Overflow pipes
 - Bottom drains and valves
 - Electrical wiring, equipment, and grounding connections
 - Ventilating systems
 - Fire extinguishing equipment
- Inspect the hoods and ductwork of the ventilation system for corrosion and damage and make sure the airflow is adequate:
 - At least quarterly during operation
 - Prior to operation after a prolonged shutdown

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WAC 296-835-11025 (Continued)

You must

- Promptly fix any deficiencies found.



Note:

- To assist you in tracking your inspections and actions taken from those inspections, you may want to keep a written record.
- It is recommended that inspections be at least quarterly even if the system isn't operating. Depending on the chemicals in use more frequent inspection may be required.

FIRST AID

WAC 296-835-11030

Make sure employees working near dip tanks know appropriate first-aid procedures

You must

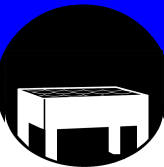
- Make sure your employees know the appropriate first-aid procedures for the hazards of your dipping and coating operations.



Note:

- First-aid procedures are contained in the Material Safety Data Sheet (MSDS) for the chemicals used in the dip tank.
- First-aid supplies appropriate for the hazards of the dipping or coating operation need to be located near the dip tank to be considered "readily available" as required by WAC 296-800-15020.

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Rule

WAC 296-835-11030 (Continued)



Reference:

There are additional requirements that may include providing emergency washing facilities and employee training. See First Aid, WAC 296-800-150, and Employer Chemical Hazard Communication, WAC 296-800-170, in the Safety and Health Core Rules, chapter 296-800 WAC.

CLEANING

WAC 296-835-11035

Prepare dip tanks before cleaning

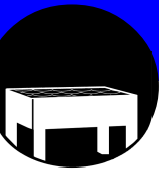
You must

- (1) Drain the contents of the tank and open any cleanout doors.
- (2) Ventilate the tank to clear any accumulated hazardous vapors.



Reference:

There may be requirements that apply before an employee enters a dip tank. See Permit-required Confined Spaces, WAC 296-62-141 and Safety Procedures, chapter 296-24 WAC, Part A-4.



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CYANIDE

WAC 296-835-11040

Safeguard cyanide tanks

You must

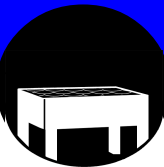
- Provide a dike or other safeguard(s) to prevent cyanide from mixing with an acid, if a dip tank fails.



Note:

This would also apply to spills or other means by which cyanide could come in contact with an acid in sufficient quantity to produce a hazardous gas.

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WELDING

WAC 296-835-11045

Protect employees during welding, burning, or other work using open flames

You must

- Make sure the dip tank and the area around it are thoroughly cleaned of solvents and vapors before performing work involving:
 - Welding
 - Burning
- OR**
- Open flames



Reference:

There are additional requirements for this type of work. See Welding, Cutting and Brazing, chapter 296-24 WAC, Part I, and chapter 296-842 WAC Respirators.

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LIQUIDS HARMFUL TO SKIN

WAC 296-835-11050

Protect employees that use liquids that may burn, irritate, or otherwise harm the skin

You must

- (1) Make sure washing facilities, including hot water, are available for every 10 employees that work with dip tank liquids.
- (2) Satisfy medical requirements:
 - Make sure an employee with any small skin abrasion, cut, rash, or open sore receives treatment by a properly designated person.
 - Make sure an employee with a sore, burn, or other skin lesion that needs medical treatment, has a physician's approval before they perform their regular work.
 - Make sure employees who work with chromic acid receive periodic examinations of their exposed body parts, especially their nostrils.

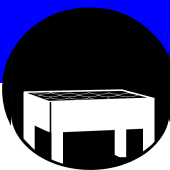


Note:

- Periodic means on a yearly basis, unless otherwise indicated.
- Any time chromic acid spills onto an employee's skin or their clothing is saturated, a physician should be responsible for evaluating and monitoring the area where chromic acid made contact with the skin.

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Rule

WAC 296-835-11050 (Continued)

You must

- (3) Provide lockers or other storage space to prevent contamination of street clothes.



Reference:

You have to do a hazard assessment to identify hazards or potential hazards in your workplace and determine if PPE is necessary to protect your employees. See Personal Protective Equipment (PPE), WAC 296-800-160, in the Safety and Health Core Rules, chapter 296-800 WAC.

